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ABSTRACT

The Secondary Education Individualized Instruction Project is an attempt to place the preservice course, SED 351--Teaching in Secondary Schools, on an individualized mode, using a systems-oriented, competency-based approach. During the summer session of 1970, the specification of course objectives and development of instructional packers was accomplished. The course material was divided into 12 units. The package for each unit contained the following elements: student directions, statement of objectives, assignment sheets, supplementary reading materials, and criterion checks. The materials were field tested during the fall semester of the 1970-71 academic year. The major management and record-keeping procedures were also developed during that period. During the spring semester of the same year, a study was conducted in which student achievement and attitudes under the individualized and traditional methods of instruction were compared. No significant difference was found in achievement or achievement gain between both groups, but students in the individualized group were found to have a significantly more positive attitude toward the course. (This final report includes material previously presented in Report Nos. 1 and 2. Appendixes contain copies of forms used, a list of course objectives, and data tables from the comparative study.) (RT)

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SECONDARY EDUCATION INDIVIDUALIZED INSTRUCTION PROJECT

A Curriculum/Instruction Study Project

S E I I P

Report No. 3

by

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and

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funded by

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and

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SECTION 1

INTRODUCTION AND PURPOSE

The Secondary Education Individualized Instruction Project (SEIIP) is an attempt to place the pre-service course, SED 351 - TEACHING IN SECONDARY SCHOOLS, on an individualized mode, using a systems oriented, competency-based approach. The Project has been jointly funded by the Senate Research Committee and the Department of Secondary Education of the University of Nebraska at Omaha for the period from July, 1970, through June, 1971. This report contains a summary of the activities of the Project for that period.

RATIONALE AND PURPOSES

Rationale

The fact that the educational environment is undergoing profound changes is a self-evident truth. These changes are found at all levels and in all aspects of education. They represent both an attempt to interpret societal needs as well as a reaction to the products and processes of that society. This is true, not only on a national scale, but on the local level as well.

How to prepare teachers to function effectively in school situations that are rapidly changing is the task facing all teacher education institutions. In addition, the Secondary Education Department at UNO needs to consider some particular factors that are affecting its activities. Among these factors are the following:

1) The weaknesses in the present program as identified by Curriculum Committee Study of 1969-70 and the Follow-Up Study of 1964-69 Graduates.

2) The growing enrollment and the locally decreasing demand for teachers indicating a need for greater selectivity in teacher candidates and a higher level of competence among those prepared and certified.

3) The heavy teaching loads and current budget restrictions requiring new and more economical utilization of resources.

4) The increasing variability of background and experience among those seeking to enter the Secondary Teacher Preparation Program requiring ways of assessing and capitalizing on these aspects.

5) The general trend toward systems-oriented, individualized, and competency-based instruction at the secondary level among the area schools.

Purposes

The general purpose of placing the course, Teaching in Secondary Schools, on an individualized, competency-based mode of operation can be reduced to several more specific objectives. Among them are the following:

1) To develop a set of behaviorally stated objectives for competencies prospective teachers should display prior to student teaching.

2) To develop individualized instructional packets that will enable students to attain the objectives indicated in #1 above.

3) To explore ways of utilizing technology, media, and alternate forms of class structuring to increase the behavioral changes desired in the prospective teachers.

4) To investigate ways in which to make better and more economical use of faculty and supporting staff.

5) To expose prospective teachers to newer developments and innovations in education as well as provide them with a better understanding of these developments.

PROCEDURES

To accomplish these purposes, the activities of the Project had to be categorized and sequenced. These activities included the following:

1) Determining what competencies the students should display at the conclusion of the instruction.

2) Writing and "packaging" individualized instructional materials that would develop the desired competencies.

3) Developing management procedures for handling the materials and the student progress through them.

4) Evaluating the materials and management procedures through field testing.

5) Comparing achievement and attitudes of students who experience the Project instructional mode with those of students who receive instruction by means of a traditional procedure.

During the summer session of 1970, the specification of the course objectives and development of the instructional packets was accomplished.

These materials were field-tested during the Fall semester of 1970-71. At the same time, management procedures were developed for operating the new instructional mode. As the materials and procedures were tried, they were revised in light of the feedback received.

The comparative study of student achievement and attitude was conducted during the Spring semester of 1970-71.

ORGANIZATION OF THE REPORT

The purpose of this report is to provide a summary of the activities described in the preceding section. Primary emphasis, however, has been placed on the results of the comparative study, since the development of the

materials and the field-testing of these have been described in two previous reports.[1,2]

Section 2 contains a description of the instructional materials and their use. The management and record-keeping procedures are described in Section 3. Section 4 includes a description of the comparative analysis of student performance under the two instructional modes. Summary and conclusions are found in Section 5, while Section 6 contains a brief description of future plans for the SEIIP Project.

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[1]Ziebarth, Raymond A. and Virginia C. Jones, SEIIP Report No. 1, unpublished Project Report, University of Nebraska at Omaha, September, 1970.

[2]Ziebarth, Raymond A. and Virginia C. Jones, SEIIP Report No. 2, unpublished Project Report, University of Nebraska at Omaha, April, 1971.

SECTION 2

DEVELOPMENT OF MATERIALS

COURSE REVIEW AND REVISION

To specify the learning outcomes desired, which was the initial task in the list of Project activities, it was necessary to start with the course as it existed. The contents, objectives, and activities of the course as it existed prior to the Project were first examined carefully and critically. Since SED 351 - TEACHING IN SECONDARY SCHOOLS had been taught by a number of different instructors in the past, a variety of interpretations of the course syllabus existed, and the inclusion and exclusion of topics had not been constant.

The central theme that was selected to serve as a unifying theme for the course was that of systematic instruction.[3] The emphasis of the course focused on those elements that constitute systematic instruction and the process by which these elements are synthesized and applied to specific instructional situations. This theme served as the criteria by which previously included material was retained and new content added.

UNIT DEVELOPMENT

Selection and designation of the content areas that appeared to be valuable for retention were made from the analysis described above. These

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[3] An excellent model of Systematic Instruction can be found in Teaching and Media: A Systematic Approach by Gerlach and Ely.

content areas, referred to in the Project as Units, were identified and coded[4] as follows:

1. History and Philosophy of Secondary Education (HP)
2. Objectives (O)
3. Organization of Instruction (OI)
4. Curriculum (C)
5. Methods (M)
6. Technology (T)
7. Evaluation (E)
8. Innovations (IN)
9. Organization, Staff & Special Services (S)
10. Instructional Arts (IA)
11. Human Relations (HR)
12. Professionalism (P)

Concurrently with the designation of the Units was the development of the expected learning outcomes related to each. The objectives developed were written in more explicit behavioral terms with conditions and criterion measures indicated wherever possible. Approximately 10-15 objectives per Unit were developed in this manner.

Of the twelve "Units" tentatively planned for development and utilization in the course, the first seven were written and "packaged". Time did not allow the remaining Units to be fully completed or utilized due to the credit hour structure of the course.

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[4]Because of the need for careful identification of materials used in the Project, each Unit and related materials is identified (coded) by the capital letters indicated in parentheses.

By the Spring semester, an eighth Unit, designated IN/IA, had been written and packaged. This new Unit contained elements of the tentatively planned Innovations and Instructional Arts Units intended for separate development. Because the objectives behind the two Units blended in such a complementary fashion, this combination was both desirable and feasible.

UNIT ORGANIZATION

The organizational structure and color code of each of these completed Units has consisted of the following elements:

1) Student Directions (blue)
2) Statement of Objectives (green)
3) Assignment Sheets (yellow)
4) Supplementary Reading Materials (white)
5) Criterion Checks (pink)

The five Unit components were color-coded, as indicated, for ready identification. Each of the elements is explained in more detail in succeeding sections.

Student Directions

Since the Materials are designed for use on an individualized basis, separate instructions to the student were written for each Unit. These provided an overview of the Unit, a suggested length of time that should be devoted to its study, suggested readings in the primary texts or in supplementary texts on reserve in the Library, and a description of the Assignments Sheets and Criterion Checks found in the Unit.

Statement of Objectives

The specific behavioral objectives that each student is expected to display upon completion of the Unit were designated in as explicit a manner as possible. The students were urged to use these as a guide to their learning activities.

Assignment Sheets

These serve as worksheets or guidesheets and are the means by which the student interacts with the content being considered. Each is related to one or a small cluster of Objectives. Frequently, these Assignment Sheets took the form of questions to be answered, tables to be completed, or materials to be created. The student was not required to complete Assignment Sheets or submit them for correction, but could do so if he wished.

Supplementary Reading

While basic textbooks are used in the course and a number of supplementary texts were placed on reserve in the Library, the individualized nature of the course demanded the availability of more specific materials that would enable the student to develop the desired competency as quickly and efficiently as possible. These supplementary materials were included in those Units where the available texts were not considered to be adequate.

Criterion Checks

In addition to the Assignment Sheets, another set of written materials, designated as Criterion Checks, was developed for each Unit. These were intended to provide the student and the instructor with an opportunity to continually evaluate student performance in terms of the objectives of the Unit.

Students were required to complete each Criterion Check and submit it for evaluation. One of five possible evaluative symbols was assigned to each Criterion Check based on the performance level stated in the Objective to which the Criterion Check is related. These evaluative symbols and their descriptors are as follows:

Symbol	Description
S+	Superior
S	Average
S-	Poor
I	Incomplete
U	Unsatisfactory

Students who received an "I" or a "U" were required to attempt the Criterion Check again. Those who received an "S" or "S-" were free to re-do a Criterion Check in an effort to improve their rating.

FIELD TESTING

During the Fall semester of 1970-71, the packaged Units were tried with one section of SED 351. Students were introduced to the instructional mode and materials at the beginning of the semester and informed of the nature and purposes of the approach. A tentative schedule indicating when various Units would be introduced and when certain Unit topics would be discussed was provided and then modified as the semester progressed. Students were also informed that class attendance was not mandatory and that they could proceed through the course at their own pace.

The class was held in double Annex 14A and B, with both rooms available to all or part of the class. Some class meetings were devoted entirely

to lectures, discussions, or the presentations of materials via some type of media such as TV, film, filmstrip, records, or tapes. Other sessions consisted of laboratory or discussion activities where students interacted with members of the Instructional Staff on an individual or small group basis. Frequently, students would have a choice of attending a formal presentation in one room or conferring with a member of the Instructional Staff in the other.

Beyond informing students of the minimum conditions that had to be met to complete the course, no pressure was exerted to have them "keep up" with the schedule. Additionally, however, they were urged, but not required, to cooperate on a video-tape presentation.

Based on the weaknesses in the materials that were revealed through the field testing, the Unit Packages were revised for use in the comparative analysis made during the Spring semester of 1970-71.[5]

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[5]Copies of the Units used in the Spring semester of 1970-71 are included in this report under a separate cover.

SECTION 3

ORGANIZATION AND MANAGEMENT

In addition to the development of the curriculum packets described in Section 2, considerable attention was devoted to the organizational and managerial aspects of the Course. The individualized instruction mode implies that students will interact with the materials at their own pace and that typical class schedules and record-keeping procedures would need to be modified. One of the aims of the developmental and field-testing phases of the Project was to adjust these aspects of the Course to enhance the use of the curriculum materials.

Traditionally, SED 351 has been a 3-credit hour course meeting three times a week for one hour or twice a week for one and one-half hours. Typical classroom activities have consisted of lectures, discussions, student reports, and the showing of films and filmstrips. Evaluations have consisted of mid-term and final examinations and student projects and papers. No special facilities have bee.. needed other than the ordinary classroom capable of holding 30-35 students. For the field-testing and comparative study phases of the Project, the twice-a-week class meeting schedule was utilized. The staffing, facility, scheduling, and management modifications are described below.

Instructional Staff

One of the purposes of the Project was to determine the needs and nature of the instructional activities of faculty members in the individualized instruction mode. Traditionally, a single faculty member has been

assigned to an SED 351 course with the responsibility of lecturing and leading discussions.

Under the individualized instructional procedures, the instructor's role changes to that of a "manager" and "resource" person. He directs student activities, evaluates student performance, and interacts with students on an individual or small-group basis. The "Instructional Staff" for the Project consisted of the Project Director and a Research Assistant, plus two graduate assistants who worked with the Project during the Fall and Spring semesters. The Director and Research Assistant had the primary responsibility for the development and management of all aspects of the Project. All four members engaged in the instructional activities of the Project.

Facilities

In an effort to anticipate some of the activities that the individualized instructional mode would require, the class was scheduled for one of the double annexes (or "temporary" buildings) on the UNO campus.[6] Either half of the annex was capable of holding the entire class. This was done in anticipation that one portion of the annex could be used as a lecture or large-group area, while the other would be available for discussion activities and evaluation.

Schedule

The ultimate goal of an individualized course is to have the materials and resources arranged so that each student can proceed through the

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[6]Annex 14A and B were used during the Fall semester, and 13A and B during the Spring semester.

course at his own learning pace, utilizing the available resources in a manner best suited to his needs. Because facilities and resources were not available and since students were inexperienced with this instructional mode, a modified version of the ideal was utilized. This involved providing the students with lectures on the various Unit contents on a regular basis. These were scheduled so that all of the Units were "covered" during the semester. Students could attend the lectures if they wished. If they chose not to, they could use the time to take Criterion Checks, review work that they had submitted and evaluated, and/or confer with members of the Instructional Staff who were not engaged in the lecture activities. They could also elect to remain away from the class completely. About one-half of the scheduled class periods were devoted to lectures.

The other class periods were designated as "Laboratory Days" during which no formal presentations were made. During these times, students could take examinations, submit work, review previously-submitted work, consult with Instructional Staff members, or remain away from the class entirely.

For the most part, the lecture schedule served as a "pace" by which the students could judge their progress. Students could work with, ahead or behind the lecture schedule.

Data Management

Problems of record keeping and management of student data become more complex under the individualized instruction procedure. This generalization was verified by the experiences during both the field testing and comparative study phases of the Project. To attempt to resolve these problems, a variety of forms and record cards were developed.

Enrollment Data Form. Since there existed a need to gather and record quantitative data about the students in anticipation of the comparative study to be done, an Enrollment Data Form[7] was developed. This form consisted of two parts: one portion dealing with certain school and personal information to be completed by the student; the other portion, with the quantitative data on the students to be completed by the Instructional Staff from student files. An identification photo for each student was taken and affixed to the form, since the identification of students was both more important and difficult under the individualized instructional mode. If a student elected the option of not attending any lecture or laboratory session, he would be virtually unknown to any Instructional Staff member.

Student Progress Record. To provide an easily interpreted and permanent record of each student's performance, a Student Progress Record[8] was developed. This sheet contained a listing of the Criterion Checks, a brief description of each, the performance level of the student, and the number of attempts needed before final success. This form served as a permanent file for each student and was kept in the Project Office.

Student Progress Report. A third form that was developed was called a Student Progress Report.[9] This form contained a listing of all of the Criterion Checks for each of the Units and was designed to inform students of their achievement at selected times during the semester. These Progress

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[7] A copy of the Enrollment Data Form is found in Appendix A.

[8] A copy of the Student Progress Record is contained in Appendix B.

[9] A copy of the Student Progress Report is contained in Appendix C.

Reports were distributed to the students on a periodic basis and served as both an informational and motivational device.

All of the forms went through various stages of development as they were tried and evaluated in terms of function and usefulness.

Materials Management

Another area of difficulty proved to be that of handling the material included in the Project. Storing the packets, Criterion Checks, student files, records, and various miscellaneous items was a problem throughout, and no satisfactory solution was found.

SECTION 4

GROUP COMPARISONS

DESIGN OF THE STUDY

During the Spring semester of 1970-71, student achievement and attitude under the individualized instruction mode was compared with that of students who received instruction by a traditional mode. To conduct this comparative study, one section of SED 351 - TEACHING IN SECONDARY SCHOOLS was opened to an enrollment maximum of 50 students, nearly double the standard maximum. This was done in anticipation of dividing the class into two smaller groups for experimental and control purposes. Preliminary enrollment figures indicated that 47 students enrolled in that section. By the time classes actually began, however, this number had been reduced to 40 due to "drops".

During the first week of classes, all students were administered a 55-item multiple choice Pre-Test. This examination had been developed by the Instructional Staff during the previous semester and was designed to measure a broad sampling of course objectives. In addition to taking the Pre-Test, all students were provided with a listing of the specific behavioral objectives[10] that they were expected to attain upon completion of the course.

Following the first week of classes, the 40 students were randomly assigned to two groups of 20 each. They were informed that this was done since the original class was too large and that instructional help and a classroom site had been obtained. The two groups were then randomly assigned

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[10] A listing of these Behavioral Objectives can be found in Appendix D.

to either a traditional or the individualized instructional mode. The Control, or Traditional, group was assigned to another classroom and received instruction from two members of the original four-member Instructional Staff that had worked with the SEIIP Project during the Fall semester.

The Experimental group remained in the double-annex classroom and received the individualized instruction treatment from the two other members of the Instructional Staff.

HYPOTHESES

A total of five hypotheses were tested in this comparative study. Four of these were related to student achievement and the fifth to student attitudes.

Achievement Hypotheses

One hypothesis related to the final achievement level of the students in the two instructional modes. This was designated as H_1 and stated as follows:

H_1 There is no difference in the mean achievement level between students who receive instruction via the traditional instructional mode and those who receive instruction via the individualized instruction mode.

Three hypotheses related to gains in achievement under the two instructional procedures:

H_2 There is no difference in the average gain in achievement between those who receive instruction via the traditional mode and those who receive instruction via the individualized mode.

H_3 Students who study via the individualized instruction mode will not show a significant gain in achievement level during one semester's instruction.

H_4 Students who study via the traditional instruction mode will not experience a significant gain in achievement during the period of one semester.

Attitude Hypothesis

The hypothesis relating to the attitudes of the students under the two instructional modes was designated as H_5 and stated as follows:

H_5 The instruction rating pattern of those students who are instructed by the individualized mode of instruction will not be different from the rating pattern of those students who are instructed by a traditional mode of instruction.

TESTS OF ACHIEVEMENT HYPOTHESIS

Pre-Treatment Measures

Since the two groups were to be compared on an achievement basis following the completion of the semester's work, it was desirable to know how the two groups compared before the semester's activities. To ascertain this, several quantitative measures[11] were obtained for each student. They are described in succeeding sections.

Scholastic Performance. To determine scholastic performance at the beginning of the semester, each student's grade point average[12] (GPA) was determined from advisor's records. This information was considered to be the best index of overall collegiate performance and was available for all

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[11] The Master Data for all measures for both Groups of students can be found in Appendix E. The data for the Experimental Group begins on page 60, and for the Traditional Group on page 62.

[12] The University operates on a grading system that consists of a five-point scale. The symbols used and their quality point equivalents are the following: A-4, B-3, C-2, D-1, F-0. A student's grade point average is determined by dividing the sum of the products of the course credit hours and the quality points by the number of credit hours earned.

students except those who had previously earned a degree and were attempting to complete teacher certification requirements.

Scholastic Aptitude. Two measures of scholastic aptitude were obtained for each student. These were the scores on the Ohio Psychological Examination (Ohio) and the Cooperative School College Aptitude Test (SCAT). The former is a power test of verbal ability; and the latter, a test of verbal and quantitative ability. These two batteries of tests are administered to students upon entering the University; and these results, also, were obtained through an examination of advisor's records.

Initial Achievement. The Pre-Test raw scores were used as the measure of initial knowledge about the course content and served as the fourth pre-treatment measure of the two groups.

Post-Treatment Measures

Two post-treatment measures of achievement were used to test the hypotheses relating to achievement. They were the Final Achievement Score and the Gain Score.

Final Achievement Score. The first measure was the raw score obtained by each student on the achievement Post-Test.[13] This instrument was identical in content to the Pre-Test and was modified only slightly in format from that examination. This score was termed the Final Achievement Score.

Gain Score. The second measure was the difference between the Pre-

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[13]An examination copy of the Post-Test is available in the office of the Project Director.

Test and Post-Test (Final Achievement) score for each student. This difference was designated as a Gain Score since it represented the gain (or loss) in achievement during the semester.

Means, variances, and standard deviations for all pre-treatment and post-treatment measures were determined. These summary values are contained in Table 1 on page 21 for the Experimental group and Table 2 on page 22 for the Control group.

Statistical Test Results

The test of Hypothesis H_1 was based primarily on the comparison of Post-Test means of the Experimental and Control groups. Before this hypothesis could be tested, however, several hypotheses relating to the pre-treatment measures of the students in the two groups needed to be tested. These were the following:

H_{1a} The average college achievement level (GPA) of students who are to study via the traditional instructional mode is not different than that of students who are to study via the individualized instruction mode.

H_{1b} The average scholastic aptitude level as measured by the Ohio and SCAT examinations of students who are to study via the traditional instructional mode is not different from that of students who are to study via the individualized instruction mode.

H_{1c} The average achievement level as measured by the course Pre-Test of students who are to study via the traditional instructional mode is not different from that of students who are to study via the individualized instruction mode.

Variances. The tests of these three hypotheses as well as that of Hypotheses H_1, H_2, H_3, and H_4 were made by means of the t-test for differences between the means of two independent samples. One of the assumptions underlying the use of the t-test is that the original populations of the groups are

Table 1

Summary of Measurement Data for
The Experimental Group

Statistic	GPA	Test				
		Ohio Total	SCAT Total	Pre-Test Raw Score	Post-Test Raw Score	Gain Scores
N	16	15	16	16	16	16
M	2.96	78.53	78.125	24.69	34.94	10.25
Δ	.4979	16.78	9.92	4.36	5.23	5.13
Δ^2	.2480	281.70	98.38	19.03	27.40	26.33

Table 2

Summary of Measurement Data for the Traditional Group

Statistic	GPA	Ohio Total	SCAT Total	Pre-Test Raw Score	Post-Test Raw Score	Gain Scores
N	18	13	15	19	19	19
M	2.759	81.46	76.6	23.58	32.57	9.00
q	.4776	19.62	9.54	2.41	5.48	4.89
q^2	.2282	384.94	90.97	5.81	30.04	23.88

normally distributed and have equal variances. An examination of the scores of each of the measures in each of the two groups indicated that they tended to be distributed normally. To test for equal variances, an F-ratio was calculated for the variances of the two groups on each of the pre- and post-treatment measures. Of the six F-ratios calculated, only one was significant. That was in the case of the Pre-Test results where the calculated F-ratio of 3.274 was significant at the .05 level. A listing of the variances on all six measures for both groups along with the calculated F-ratios is contained in Table 3.

Means. Once the F-ratios were calculated, t-tests were run for a comparison of the differences between the means of the two groups on the four pre-treatment measures. In the case of the Pre-Test, the test used was that developed by Cochran and Cox[14] since the variances were not equal. In no instance was a significant t-value found. Consequently, the hypotheses about the equality of the means of the two groups on the GPA, Ohio, SCAT, and Pre-Test was accepted, and it was concluded that there were no significant differences between the two groups in terms of general collegiate performance, scholastic aptitude, or prior knowledge about the course.

Following the calculations of the t-ratios for the pre-treatment measures, t-tests were conducted for differences between the Post-Test means and the Gain Score means of the two groups. Again, the two t-values were not significant. This led to the acceptance of Hypothesis H_1 that there was no significant difference between the achievement of the traditional group and

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[14]Cochran, W. G. and G. M. Cox, Experimental Designs, New York: Wiley and Sons, 1950.

Table 3

Results of Tests For Equal Variances For Pre-Treatment and Post-Treatment Measures

Measure	S_E[a]	S_T[b]	F-Ratio
GPA	.2480	.2282	1.0868
Ohio	281.70	384.94	1.3665
SCAT	98.38	90.97	1.0815
Pre-Test	19.03	5.81	3.2736*
Post-Test	27.40	30.04	1.096
Gain	26.33	23.88	1.1023

[a]Estimated Variance of E Group Population.

[b]Estimated Variance of T Group Population.

*Significant at .05 level.

the experimental group; and of Hypothesis H_2 that there was no significant difference in the amount of gain between the Pre-Test and Post-Test for the two groups.

The results of the t-tests for the differences between the four pre-treatment and two post-treatment means of the two groups is contained in Table 4.

To test Hypotheses H_3 and H_4 that the difference between the pre-treatment achievement and post-treatment achievement of each of the two groups was not significant, the t-test for the differences between means of dependent samples was employed. The resulting t-values are indicated in the following tabular material:

Group	Difference Means	Standard Error of Mean Differences	df	t-value
Traditional	9.000	1.153	18	7.810**
Experimental	10.250	1.325	15	7.738**

**Significant at the .01 level

For each group, the t-value determined was significant at the .01 level, leading to the rejecting of Hypotheses H_3 and H_4 and to the conclusion that each group gained a significant amount of knowledge as measured by the pre- and post-test scores under each method of instruction.

Based on the results of these statistical tests, students who study under the individualized instructional mode can make a significant gain in achievement and that this gain in achievement is equal to that experienced by those who receive instruction via a more traditional mode.

Table 4

Results of Tests of Equality of Means of Pre-Treatment and Post-Treatment Measures

Measure	M_E[a]	M_T[b]	S_D[c]	df	t-Value
GPA	2.96	2.76	.1725	32	1.1652
Ohio	78.53	81.46	22.58	26	.1298
SCAT	78.13	76.60	3.62	29	.4213
Pre-Test	24.69	23.58	1.203	33	.9072[d]
Post-Test	34.94	32.57	1.876	33	1.2621
Gain Score	10.25	9.00	1.747	33	.7154

[a]Experimental Group Mean

[b]Control Group Mean

[c]Standard Error of Mean Difference

[d]Based on t-value of t-test developed by Cochran and Cox

TEST OF ATTITUDE HYPOTHESIS

In addition to testing the hypotheses related to student achievement under the two methods of instruction, a test of Hypothesis H_5, relating to student attitudes toward the two modes of instruction, was also made.

Attitude Instrument. The instrument originally planned for use in these comparisons was an instruction rating form that UNO faculty members had had available for use during previous years. However, work done by a University ad hoc Committee on Faculty Salaries[15] during the Spring semester led to the use of a different instrument.

This committee recommended that an instructor rating questionnaire be utilized by all faculty members at the end of the Spring semester as one means of determining salary increases, promotions, and tenure at the University. Since the recommendation for the use of this instrument came from this committee, and since it was to be used on a University-wide basis during the Spring semester, the decision was made to use this instrument as the means for assessing student attitude toward the two methods of instruction.

The questionnaire[16] consists of 29 statements to which a student is to respond on a four-point scale. A value of "1" on this scale represents the highest or most positive agreement with the statement, and a "4" is the most negative or strongest disagreement with the statement. Student response was on a voluntary and anonymous basis.

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[15]The official title of this committee is Joint Committee of Faculty and Dean's Representatives on the Subject of Faculty, Salary, Rank, and Tenure.

[16]A copy of the Instructor Evaluation Questionnaire is contained in Appendix F.

A total of 16 students in each group completed questionnaires. Both overall rating patterns and the evaluations on particular items were of interest. Of the 29 items in the Questionnaire, 15 were considered to be particularly relevant to experimental conditions of the study. These 15 items are reproduced in Table 5 and deal with such items as course organization, goals, evaluation, and relevance.

Total Rating Pattern Analysis

The first phase of analysis of the questionnaire results involved summing the ratings of the 29 items for each of the 16 students in each group.[17] This same summation process was carried out for the 15 selected items. For each of the groups, for both the total items and selected items, the rating patterns appeared to be positive in nature. That is, ratings of "1" and "2" predominated, while ratings of "3" and "4" were few.

This led to two types of comparisons. The first was whether the rating patterns observed differed from what would be expected if students had simply rated each item on a chance basis. Secondly, the comparison was whether the rating patterns for the two groups differed from each other. A summary of the ratings for all items and the selected items is shown in Table 6 along with the expected ratings on a chance basis.

To determine whether the observed distribution of rating frequencies differed from that of chance, the Chi-Square Test was utilized. In each case, the Chi-Square value was found to be significant at the .01 level. This led to the conclusion that the observed pattern of rating frequencies did differ

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[17]The Rating Summary for both groups is given for all items in Appendix G. The Experimental Group summary is on page 67 and for the Traditional Group on page 68.

Table 5

Fifteen Selected Items From the Instructor Evaluation Questionnaire

Item No.	Item Description
4	To what extent does the course appear to be well organized?
6	To what extent is the content relevant to the vocational and/or personal goals of the student?
9	Does the instructor use effective examples to illustrate concepts.
10	Were the goals of the course communicated clearly to you?
11	Were the assignments at the appropriate level of difficulty?
12	Were audi-visual and other technical aids used effectively in relation to the course content?
14	Was the amount of work appropriate for the number of course credits and level of the course?
15	Were the methods of evaluation for grading purposes communicated clearly?
16	Was the instructor fair in grading?
17	Were the tests or other kinds of evaluation related to the course goals?
21	Is he/she available for out of class conferences?
24	I learned a great deal from this course.
25	This course stimulated my thinking.
27	In comparison with other courses I have had at this University, I would rate this one: (One of the best; Above average; Average; Below average).
29	The class size and other aspects of the physical environment were conducive to maximum learning.

Table 6

Expected and Observed Instructional Rating Patterns of the Experimental and Control Groups For All and Selected Questionnaire Items

Items	Group	Rating Level			
		1	2	3	4
All Items	Expected[a]	116	116	116	116
	Experimental	221	155	71	17
	Control	91	110	120	33
Selected Items	Expected[a]	60	60	60	60
	Experimental	118	71	38	13
	Control	33	100	79	28

[a]Based on chance assignments of ratings.

significantly from a chance rating; and, since the reactions tended to be towards the positive end of the scale, the conclusion was that the students in each group did rate the instruction to be positive.

The next step in the analysis was to compare the rating pattern of the two groups to see if there was a relationship between the rating pattern and the nature of the instructional group. This was done for both the total rating patterns and for the rating patterns on the 15 selected items. In both cases, a significant Chi-Square value was found, leading to the conclusion that there was a relationship between the rating given to the instruction and the nature of the instruction experience. In both cases, the experimental group gave more positive ratings than did the traditional group. Results of the Chi-Square tests for the comparison of the rating patterns is found in Table 7.

Item Rating Pattern Analysis

Following these comparisons, each item of the 15 selected items was further analyzed. Because of the small number of ratings at the "3" and "4" level, these two ratings were combined into a single value, thus reducing the rating to a 3-point scale. In this case, "1" was considered to be highly positive, "2" to be positive, and "3" to be negative. Once this was done, the two groups were compared to see whether the rating patterns for each item was related to the instructional mode. The Chi-Square test of significance was again used and, of the 15 items, a significant difference was found in seven. Of the seven, five were significant at the .01 level, and two were significant at the .05 level. The results of these tests are found in Table 8. In each case, the experimental group tended to be more positive in their evaluation of the instruction. Consequently, of the 15 items, 7 were found in which the

Table 7

Chi-Square Values For Comparisons Of Rating Patterns
Of Experimental and Control Groups Against
Expected Patterns and Against Each Other

Items	Comparison	df	t-Value
All	Experimental vs. Expected	3	210.11**
	Traditional vs. Expected	3	158.55**
	Experimental vs. Traditional	3	83.12**
Selected Items	Experimental vs. Expected	3	102.98**
	Traditional vs. Expected	3	62.36**
	Experimental vs. Traditional	3	72.60**

**Significant at the .01 level.

Table 8

Chi-Square Values For Comparisons Between Experimental and Control Group Ratings On Selected Items From the Instructor Evaluation Questionnaire

Item Number	df	X^2 Value
4	2	18.04**
6	2	2.42
9	2	5.40
10	2	15.88**
11	2	8.36*
12	2	11.12**
14	2	4.00
15	2	14.40**
16	2	3.40
17	2	10.20**
21	2	4.06
24	2	.64
25	2	6.28*
27	2	5.28
29	2	3.48

*Significant at .05 level.

**Significant at .01 level.

rating pattern of the experimental instruction was more positive than that of the traditional instruction.

These results led to a rejection of Hypothesis H_5 for the total rating of the 29 items, for the total rating of the 15 selected items, and for ratings on 7 of the 15 selected items.

An examination of those seven items which were found to have a significant Chi-Square revealed that the students in the Experimental group felt that:

1) the experimental course was well organized
2) the goals of the course were clearly communicated
3) assignments were appropriate
4) media was effectively used
5) methods of evaluation were clearly communicated
6) evaluation was related to course goals
7) the course stimulated their thinking

All of these characteristics are a part of the general rationale of an individualized instruction mode, and it was apparent that students were able to detect these differences in this experimental situation.

ADDITIONAL OBSERVATIONS

In addition to the formal comparisons that were made between the Experimental and Control groups concerning the two instructional modes, a number of informal comparisons and observations were also made during the Spring semester. Some of these are described in succeeding sections.

Student Performance

During the field testing activities of the Fall semester, certain patterns of the student performance emerged that appeared to be characteristic of the individualized instructional program. Of the 40 students who began the course in the Fall semester, three withdrew, leaving a balance of 37 students. The distribution of the final grades of the 37 who remained in the course was the following:

Grade	Number
A	6
B	11
C	10
D	0
F	3
I	7
Total	37

These grades were determined by considering the number and quality of the Criterion Checks completed, the quality of two major projects, and the level of performance on the Final Examination (Post-Test).

This same kind of pattern in grade distribution was observed for the Experimental group at the end of the Spring semester. This pattern was different from that of the Control group, as is shown in the following tabular material.

Grade	Number in Experimental	Number in Control
A	5	5
B	3	9
C	3	5
D	0	0
F	0	1
I	9	0
Totals	20	20

The distribution of the grades for the Control group is similar to that found for the course when it was taught via the traditional approach prior to the Project activities.

The high number of "I's" (Incomplete) and "F's" (Failure) in the groups using the individualized mode is particularly noteworthy, since these have been a rare event in the course. One generalization that could be made that related to student performance was that students either performed or did virtually nothing. Almost every student who received a grade of "F" or "I" attempted a very small number of Criterion Checks. It appears that the individualized instructional mode places a great deal of responsibility on the student; whereas, in the more traditional mode of classroom operation, the burden is with the instructor and the student may succeed in the course, although remaining in a passive nature. In the individualized instruction situation, approximately 15-20 percent of the students appear to be unable or unwilling to accept this responsibility. As a result, they do very few of the Criterion Checks or complete any of the other required activities that

demonstrate their accomplishment of the desired behaviors. It is measurement of such behavioral outcomes for which the traditional instructional mode is not especially suited.

Student Reaction

The general reaction of the students to the individualized instruction mode was positive as was demonstrated by the Questionnaire results described previously. Nevertheless, student reaction to the individualized instruction approach was more extreme in both directions than that experienced in the traditional mode. Students in the traditional mode appeared to be more passive or indifferent about the course and nature of the instruction. Students in the individualized approach have reactions that range from feeling that this approach and this course was the worst possible experience that they could have had to those who indicated that this was the first education course in which they had learned anything. Nearly every student had some type of reaction to the approach and was very willing to share this opinion with the Instructors. The feedback received on the part of students who experienced the individualized approach was very great and very helpful in making revisions and adjustments in the material.

For many students, a change in attitude appeared to take place during the course of the semester. A number appeared to be confused, dismayed, or antagonistic toward the approach early in the semester. However, as the approach became familiar, the organization of the course became apparent, and the progress that was attained became evident, these students seemed to become much more sympathetic towards this approach. Many of the students admitted that once the course was completed, and they saw the "big picture,"

the nature of the activities and the kinds of things that they were asked to do made a great deal of sense. Perhaps the outstanding example of this was one student who participated in the Fall semester field testing of the program. Assigned to student teach during the Spring semester, she wrote[18] the Project Director indicating the satisfaction and help that she felt she had received from the course in light of her student teaching demands.

Faculty Reaction

A third area of observed reaction to the two approaches has been that of faculty members in the Secondary Education Department. All of the department members have received copies of the Unit packets, as well as of Reports #1 and #2. All have expressed an interest in the program. Many have requested the use of the materials and some have made plans to change subsequent courses in the Departmental Program. In this way, there will be more alignment with the experiences of students in SED 351. Thus, it would appear that there is a greater opportunity for articulation within the program for the experimental or individualized approach than there has been with the traditional approach.

Although these informal comments, remarks, and observations have no way of being statistically measure or compared, they do provide some measure of feedback on the experimental course, and also point out some aspects to the Project that are not evident from the statistical comparisons.

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[18] A copy of this letter can be found in Appendix H.

SECTION 5

SUMMARY AND CONCLUSIONS

SUMMARY

This project was an attempt to determine the effect of placing one course in the Secondary Education Teacher Preparation Program at the University of Nebraska at Omaha on a competency-based, individualized mode of instruction. The course, SED 351 - TEACHING IN SECONDARY SCHOOLS, is the midpoint in the preparation of secondary teachers in the Department of Secondary Education. Normally, it is taken by students during their junior year and precedes their special methods courses and student teaching experiences.

Specifically, the study had the purposes of

1) determining the behavioral objectives and content make-up of the Teaching in Secondary Schools course.

2) preparing individualized instruction packets that would contain the necessary directions and information for the students to attain these objectives over the desired content on a self-instructional basis.

3) developing the organization, management, and record-keeping procedures necessary to operate such a program.

4) field testing the materials.

5) comparing the achievement and attitude of students who are taught by such means with that of students who are taught by a conventional instructional method.

The Project was conducted during the period of July, 1970, through May, 1971. The development of objectives, determination of course content, and preparation of packets took place during July, August, and September of 1970. The materials were field tested during the Fall semester of the 1970-71

academic year. The major management and record-keeping procedures were also developed during that time period. During the Spring semester of the 1970-71 school year, a study was conducted in which student achievement and attitudes under the individualized and traditional methods of instruction were compared. The results of this study are described below.

Comparisons

To compare the achievement and attitudes of the students under the two methods, forty students in one section of SED 351 were randomly assigned into two smaller groups during the Spring semester. One group received a traditional instructional approach, while the other proceeded through the course using the individualized materials.

Achievement. The two groups were compared at the beginning of the semester on the basis of grade-point average, scholastic aptitude, and knowledge about the course content and were found to be equal on all measures. Following the treatment period, which extended throughout the Spring semester, the two groups were compared on the basis of final achievement scores and on the amount of gain in achievement during the period. No significant difference was found between the two groups in final achievement or in the amount of gain in achievement between the beginning and end of the course. Both groups made significant gains in achievement during the semester.

Attitude. To compare the attitudes of the students under the two instructional modes, the University Instructor Evaluation Questionnaire was utilized. The total rating patterns of the two groups from all Questionnaire items as well as from selected items were compared. The rating patterns of both the Experimental and Traditional groups were found to differ signifi-

cantly from that expected if the rating had been made by chance. When the same rating patterns for the two groups were compared, the Experimental group was found to have a rating pattern significantly different from that of the Traditional group. Since the rating pattern of the Experimental group was more positive than that of the Traditional group, it could be concluded that the attitudes of the students toward the experimental mode of instruction were more favorable than that of students toward the traditional mode.

The ratings on fifteen selected items from the Questionnaire were also compared on an item-by-item basis. Of the fifteen items, seven had rating patterns in which the two groups differed significantly. Again, the Experimental group was more positively disposed toward the instruction that they experienced than was the Traditional group toward theirs. The particular items on which significant differences were found dealt with the purposes and organization of the course, the nature of the course evaluation, and the relationship of the course content to the goals of the student.

Additional Observations. In addition to the formal comparisons, a number of informal observations were made by the Instructional Staff concerning the attitude of students and other faculty members toward the individualized instructional mode. This mode was a new experience for most students and many had strong reactions to the approach. Although much of the reaction tended to be positive, those who had negative attitudes toward the program were more extreme than those who were in a traditional mode of instruction. The students who successfully completed the course felt that the individualized instruction approach was worthwhile, although difficult at the onset. The new approach, which placed much responsibility on the student for achieving the learning outcomes, tended to discourage more students than did

the traditional method of instruction. A larger percent of Incompletes and failures were noted in those classes in which the individualized instruction method was used. Those students who failed to complete the Course tended to be students who were uncertain about their education goals or who appeared to have very little self-motivation and self-discipline.

Other Department faculty members have expressed interest and approval of the course organization and procedure. In some instances, they are patterning other course organization and operation after this method.

CONCLUSIONS

Based on the results of the material development, field testing, and the comparative study of the individualized instructional mode, a number of conclusions can be drawn about the nature of the instructional approach. Also, a number of strengths and weaknesses in this particular approach can be noted. Some of the more important of these are indicated below:

Listing of Conclusions

1. Specific instructional objectives for students in a teacher education course can be developed and stated in behavioral terms.

2. Individualized instructional materials through which students can attain the desired learning outcomes can also be developed.

3. Students who study by this individualized means can make a significant gain in achievement. Furthermore, this gain in achievement is equal to that made by students who study the same content under a traditional means.

4. The attitudes and reactions of students who experience the individualized instructional mode is more positive than that of students who are instructed by the more traditional means.

5. To be successful, the individualized instructional mode requires facilities, management, record-keeping, and staffing that are different from that needed to conduct a more traditional instructional operation.

6. Further development of facilities and materials should take place to enhance the individualized instruction program.

Strengths

As a result of the experience with the individualized instructional Project, certain strengths in the program appeared to be present. Among these were the following:

1. The development of the statements of objectives and the organization of the course to fulfill those objectives was a very worthwhile activity. It was necessary to decide exactly what the instructional goals of the course should be and what were the most feasible means by which they could be reached.

2. The careful examination of the learning experiences, the reading materials, media, and instructional activities led to a careful selection of these elements of the course. The elimination of some previously used materials and the selection of new and alternative materials appeared to strengthen the course.

3. The close observation of student performance that took place through the completion of the various Criterion Checks by the students and evaluation of these by the Instructional Staff provided a very close analysis of the nature of the student work and an identification of the areas of strength and weakness. It also provided the students with rapid feedback on how well they were progressing through the course.

4. The greater freedom that the students were allowed in terms of planning their own ways of acquiring knowledge and utilizing their time as they saw fit seemed to be a decided asset for most of them.

5. The identification of those students who were unable or unwilling to complete the requirements provided a better screening procedure than had been possible in the past. As a result, a greater degree of confidence can be placed on those students who advance into the student teaching phase of the program.

In addition to these strengths that seem to be a part of the individualized approach, a number of weaknesses in the approach were also identified. Among these were the following.

Weaknesses

1. The development of Individualized Instructional Packages is an exacting and demanding task. Some of the packets need further refinement to eliminate sources of ambiguity and confusion on the part of students.

2. A much greater and varied amount of instructional resources are needed to provide students with the necessary materials by which they can acquire the desired knowledge and accomplish the indicated objectives.

3. The need for better facilities through which individualized instruction can be provided is apparent. A resource center where students can come for individual help or utilize the media and written materials that can supplement the packets themselves is essential if an individualized instructional procedure is to be fully realized.

4. New scheduling procedures and course organization need to be developed to successfully implement the instructional mode. A single class meeting, one and one-half hours, two days per week, is not the most desirable framework in which to operate this instructional mode. Large groups, small group discussion sections, and independent teacher-student interaction opportunities are necessary for this type of approach.

5. Greater explanation, orientation, and guidance for the students is needed. Many students are unfamiliar with this instructional approach and need guidance to overcome initial misunderstanding and apprehension about the instructional approach.

In conclusion, it would appear that an individualized instructional approach for preparing teachers during a portion of their teacher preparation program is a viable means of enabling them to acquire knowledge. It also provides better opportunities to screen these students. The achievement and attitudes on the part of such students is both positive and rewarding. Further efforts to develop, refine, and improve the individualized instruction program seem warranted. In view of this, the final section of this report is devoted to plans for the future of the Project.

SECTION 6

FUTURE DEVELOPMENTS

Although Report #3 is being made to the Senate Research Committee to indicate the outcome of a Project funded through Senate Research funds, this section has been included to provide those who will receive this Report with some knowledge of additional developments and future directions of the Project. Based on the conclusions drawn as a result of the study, as well as from an anlysis of the strengths and weaknesses, a number of activities related to Secondary Education Individualized Instruction Project (SEIIP) are planned. These future developments can be categorized under the following headings: (1) Material Development, (2) Facility Development, and (3) Scheduling.

Material Development

One of the weaknesses revealed in the analysis of the individualized instruction project was the deficiency of materials needed by the students to make the program a truly individualized one. Two kinds of items are needed: (1) supplementary materials that will provide the students with content information, and (2) additional instructions and guidance for the students who are either ahead of or behind the pace of the lecture presentations or who do not wish to utilize the lectures as a means of acquiring information.

The most feasible solution to these problems appears to be through the utilization of commercially-prepared media materials already available or through the development of audio and visual materials which can supplement the written materials. The immediate plans for the Project include audio

tapes and slides that will provide both additional content information and study directions for the student. A grant from the University of Nebraska at Omaha Improvement of Instruction Committee will help fund this phase of the Project during the Summer of 1971.

Facility Development

Another weakness brought out by the experimental use of the individualized instruction approach was the need for special facilities in which the students could use the resource materials available to them. This same facility could serve as a place where they could meet with Instructional Staff members on a small group or individual basis. To meet this problem, an area in the new Education Building (Kayser Hall) is being developed for this purpose. One of the seminar rooms (520) in this building will be converted into an Individualized Instruction Laboratory. This facility will contain carrels where students may listen to tapes, view materials, or take examinations. Additional space will be provided for small group discussions or reading of printed resource material. Space will also be available for discussion activities and interaction with Instructional Staff members. Storage of materials and record management will also be enhanced through special storage equipment and facilities in this Laboratory.

Other areas in the Education Building will also be utilized to supplement the course activities. Both the Instructional Materials Center and the Teacher Demonstration Laboratory will be used as support and resource facilities for the Project.

Scheduling Changes

To facilitate the individualized instruction approach, scheduling changes appear to be necessary. One of the weaknesses and difficulties noted with the program was the problem of fitting the activities of such a program into a traditional class schedule. As a result, a new scheduling format in the course will be tried during the Fall and Spring semesters of 1971-72.

In this new format, the class will be scheduled to meet two days a week, one hour per day, in lecture sessions. Approximately one-half of these sessions will be utilized for the purpose of imparting information. During the remainder of these "lecture" periods, no formal classroom activity will take place. Instead, the students will have the opportunity to meet with the Instructional Staff to discuss their progress, resolve individual problems, or assess their accomplishments. This variation is termed "unstructured" time.

In addition to the lecture sessions, each student will be scheduled into a laboratory session meeting an additional hour per week in the Individualized Instruction Laboratory described previously. During the laboratory sessions, students will have the opportunity to use the printed and media resources or consult with members of the Instructional Staff.

Hopefully, these three modifications will result in improvements within the program and overcome some of the previously noted weaknesses. Other reports will be forthcoming describing further developments of the Project.

APPENDIXES

APPENDIX A. Enrollment Data Form

SED 351 ENROLLMENT DATA FORM

NAME _____

ADDRESS _____

PHONE _____

Photo

COLLEGE _____

FIRST TEACHING FIELD _____ ADVISOR _____

SECOND TEACHING FIELD _____ ADVISOR _____

EDUCATION ADVISOR _____

DEGREE(S) HELD (number, Type, Areas) _____

LIST ANY TEACHER AIDE OR TEACHING EXPERIENCE _____

_____

_____

STUDENT: DO NOT MARK BELOW THIS LINE

	DATE	GRADE	TRANSFER EQUIVALENT
FED 208	_____	_____	_____
FED 205	_____	_____	_____
FED 208	_____	_____	_____
PSY 351	_____	_____	_____

GPA's: Overall _____ 1sTF _____ 2nd T.F. _____ ED _____

OHIO RS.

Vocab ___

Usage ___

Comp ___

Total ___

SCAT

V. _____

Q. _____

Total _____

STUDENT PROGRESS RECORD

NAME _____ Semester F (S) I II Year 71 Instructor _____
Last First Middle

UNIT	ACTIVITY	DESCRIPTION	EVAL	ATMPS
HP	HP:II:1	Written Phil		
	HP:1	Exam - part 1		
	HP:2	Exam - part 2		
	HP:3	Exam - part 3		
O	O:IV:1	CC		
	O:IV:2	CC		
	O:IV:3	CC (optional)		
	O:VI:1	Obj - cog		
	O:VI:2	Obj - affec		
	O:VI:3	Obj - psymtr		
OI	OI:II:1	U/L preface		
	OI:III:1	U/L obj		
	OI:III:2	Meth		
	OI:III:3	Content		
	OI:III:4	Media/Materials		
	OI:III:5	Eval		
	OI:III:6	Lesson Plan		
	OI:III:7	Lesson Plan (t)		
M	M:II:1	MRTO		
	M:IV:1	Obser		
	M:V:1	Methods selected		
	M:VI:1	Methods used		
	M:VI:2	Analysis - meth		
	M:VI:3	Analysis - I.S.		

UNIT	ACTIVITY	DESCRIPTION	EVAL	ATMPS
C	C:III:1	S-Outline		
	C:IV:1	TF Organizations		
	C:V:1	U-Outline		
	C:V:2	Matrix		
	C:V:3	U-Content		
T	T:II:1	AV		
	T:II:2	MRIO		
	T:III:1	PM or Review		
	T:IV:1	Visual		
	T:IV:2	U-Media/Materials		
E	E:II:1	Techniques		
	E:III:1	Questions		
	E:IV:1	Blueprint		
	E:V:1	Statistics		
	E:VI:1	Item Analysis		
IN/IA	IN/IA:I:1	V-T presentation		
	IN/IA:II:1	Written Report		
	Criterion Checks	Grade		
	V-T Presentation	Grade		
	Completed Unit	Grade		
	Final Exam Grade			
	Final Grade			

APPENDIX C. Student Progress Report

Name _____ Date _____

STUDENT PROGRESS REPORT

As of the above date, our records for SED 351 show that you have accomplished the following assignments as indicated by a check. If there are any discrepencies with your own records, please bring the matter to the attention of the Instructional Staff.

TASK		TASK	
HP UNIT	____HP:II:1	C UNIT	____C:III:1
	____HP$_1$		____C:IV:1
	____HP$_2$		____C:V:1
	____HP$_3$		____C:V:2
			____C:V:3
O UNIT	____O:IV:1		
	____O:IV:2	T UNIT	____T:II:1
	____O:IV:3*		____T:II:2
	____O:VI:1		____T:III:1
	____O:VI:2		____T:IV:1
	____O:VI:3		____T:IV:2
OI UNIT	____OI:II:1	E UNIT	____E:II:1
	____OI:III:1		____E:III:1
	____OI:III:2		____E:IV:1
	____OI:III:3		____E:V:1
	____OI:III:4		____E:VI:1
	____OI:III:5		
	____OI:III:6		
	____OI:III:7		
M UNIT	____M:II:1		
	____M:IV:1		
	____M:V:1		
	____M:VI:1		
	____M:VI:2		
	____M:VI:3		

*= optional activity

APPENDIX D. Statement of Objectives

SED 351

SPECIFIC OBJECTIVES

1. Given the 5 major periods in American Education history, the student will be able to list 4 major events affecting Secondary Education that occurred in each period, and will be able to tell the significance of each of these events.

2. Given a listing of 20 major events in the history of Secondary Education, the student will be able to indicate in which of the the 5 periods of American education 15 of the events occurred and will also be able to indicate the significance of the event.

3. Given the 5 periods of the history of American Education, the student will be able to list for each of the periods, 3 items describing the following categories:
   1. Role of the teacher,
   2. Nature of the curriculum offerings,
   3. The nature and type of student body,
   4. The objectives of the school.

4. For each of the 5 periods in the history of American education, the student will be able to describe two significant events that took place during each of those periods relating to the curriculum of his teaching field(s).

5. The student will be able to list the major schools of philosophical though concerning education.

6. Given a particular philosophical school of thought, the student will be able to write a fifty word paragraph describing the position of this particular school of thought.

7. For a given educational issue or question, the student will be able to state the arguments on each side of the issue or question and and describe in writing how each school of philosophical thought would view that issue or question.

8. Given a particular characteristic of the American Secondary School, the student will be able to identify the philosophical basis for that particular viewpoint of statement.

9. The student will be able to write a 250 word essay describing his own philosophy of education and relating it to one or more of the various schools of philosophical thought concerning education.

10. For a given characteristic of present American society, the student will be able to describe how the secondary school, in general, as well as his particular teaching field or fields in particular, has reacted to this characteristic.

11. Given a list of the trends and/or future developments of American society, the student will be able to describe the implications that these have for the secondary school in general, and for his teaching field or fields in particular.

12. The student will be able to list the names of 4 statements of educational purposes from those discussed in the text and in class.

13. Given a list of well known statements of educational objectives, the student will be able to order them in terms of date of publication with 100% accuracy.

14. Given the names of any two statements of educational purpose from a pre-selected group, the student will list at least 3 similarities and 2 difference between them.

15. The student will be able to describe how his teaching field contributes to the general purposes of education by describing this contribution for each point of the Seven Cardinal Principles of Education or the Ten Imparative Needs of Youth.

16. The student can list at least 7 groups or organizations that shape and influence the curriculum.

17. For each of the groups listed, the student can give a specific example of how they influence the curriculum or can explain how such influence takes place.

18. The student can write an acceptable definition of "behavioral objective."

19. Given a list of instructional objectives, the student can distinguish between those that are written behaviorally and those which are not with 80% accuracy.

20. Given a list of instructional objectives, the student can identify which of the 3 characteristics of behavioral objectives each is missing with 80% accuracy.

21. Given instructional objectives that are not in behavioral terms, the student can re-write such objectives so that they do have the characteristics of behavioral objectives with 80% accuracy.

22. The student can name the 3 domains of human behavior and can briefly describe each.

23. The student can name the major subdivisions of each of 3 domains of human behavior with 90% accuracy.

24. Given any set of subdivisions of any of the 3 domains of human behavior, the student will be able to rank the subdivisions according to their position in the domain with 100% accuracy.

25. Given a listing of behavioral objectives, the student can identify in which of the 3 domains the objectives best fit with 90% accuracy.

26. Given a listing of behavioral objectives from one of the three domains of human behavior, the student can identify in which of the major subdivisions the objectives fall with 75% accuracy.

27. The student will be able to write behavioral objectives in proper form for his teaching field for each of the major subdivisions of the Cognitive Domain.

28. The student will be able to write behavioral objectives in proper form for his teaching field for the first three major subdivisions of the Affective Domain.

29. The student will be able to write behavioral objectives in proper form for his teaching field for the Psychomotor Domain.

30. The student can write a 50-100 word description of the term "instructional act" that will agree with one of a pre-selected list of definitions.

31. The student reproduce at least 2 schematic diagrams or models of instructional interaction from those described in class.

32. The student can list the names of 10 instructional strategies or methods other than the lecture-recitation method.

33. For at least 5 of the methods listed above, the student will be able to describe the method in detail, list advantages and disadvantages of each and tell when and where each is best used.

34. For a given cognitive (2.00 or higher), Affective, or Psychomotor objectives, the student will select an appropriate method for attaining this objective and defend his choice.

35. The student will be able to describe the way in which the nature of content affects the method of instruction used and will provide at least two illustrative examples from his own teaching fields.

36. The student can list the names of the 9 instructional skills employed by teachers.

37. For at least 6 of the skills listed, the student can describe the following:

    a) The Function of the skill.

    b) The Techniques for using it.

    c) How the Quality of the skill is judged.

38. Given an example of teaching, the student will be able to detect at least 3 of the instructional skills and analyze each of the 3 according to the function, technique, and level of quality.

39. For the objectives selected for the Unit/Lesson Plan, the student will select appropriate teaching strategies to attain these objectives. At least 5 methods other than the lecture - recitation method must be used.

40. For the objectives selected for the Curriculum Report Presentation or for some other class presentation, the student will select the methods appropriate for accomplishing these objectives.

41. The student will be able to adequately defend these choices by citing at least 3 advantages or functions of the selected methods and relating these to his objectives.

42. In teaching situation, such as the Curriculum Report Presentation or some other presentation, the student will display an attempt to use both the pre-selected methods and the instructional skills related to those methods.

43. Following the presentation, the student will be able to evaluate the success of the method(s) (from audio or video tape) by citing specific examples of student response that indicate such success or failure.

44. Following the presentation, the student will evaluate at least two of the 9 instructional skills to be employed by citing 3 measures of quality for each and applying these measures to his performance.

45. The student can list, without error, the names of the 5 types of Instructional Guides.

46. Given the names of any two types of Instructional Guides, the student will be able to list at least 4 differences between them.

47. Given the name of any type of Instructional Guide, the student can name at least 5 elements of it.

48. Given samples of various instructional Guides the student will be able to classify each according to type with 80% accuracy.

49. Given an example of any one of the types of Instructional Guides, the student will be able to identify with 80% accuracy, what elements are missing from it.

50. Given a standard format for a Unit Plan and Lesson Plan, the student will be able to identify, without error, what items would be included in each part.

51. The student will develop a format for a Unit Plan and a Lesson Plan that will contain the necessary components for such plans and that will, in the opinion of the instructional staff, convey the necessary information about what instructional activities will take place.

52. The student will select a topic or concept from his teaching field and will write a minimum of 11 instructional objectives in proper form related to this topic or concept. A minimum of 8 objectives from the Cognitive Domain (4 must be at the 2.00 level or higher) and a minimum of 3 objectives from the Affective Domain must be included.

53. Given a topic from his teaching field and a set of objectives related to this topic, the student will prepare an Instructional Unit Plan for the attainment of these objectives using one of the standardized formats or the format developed previously.

    a. The student will provide an appropriate time schedule for this Unit.

    b. The student will include at least 6 different instructional strategies to be employed in the accomplishment of these objectives.

    c. The student will include appropriate curriculum content for the attainment of the objectives.

    d. The student will include at least three types of media to be employed in the instructional activities of the Unit.

    e. The student will include appropriate evaluation items or procedures in the Unit Plan so that the degree to which the objectives were attained are measured.

54. Given a Unit Plan of his own development, the student will select one Lesson from that Unit and prepare a suitable Lesson Plan for that lesson using of the standardized formats or the format developed previously.

55. Given a topic to present to the class (Curriculum Report or some other prescribed by the instructional staff), the student will prepare suitable objectives for this presentation and will develop an appropriate plan for the presentation of the topic and attainment of the objectives.

56. Given the following terms, the student will be able to write a definition of each term that agrees with those given in class lectures:

    Audio-visual
    Media
    Technology
    Instructional System

57. Given the following aspects of education, the student will cite 3 ways in which technology influences each of them.

    Curriculum
    School organization and facilities
    Role of the teacher
    Methods of instruction

58. For a minimum of 6 audio-visual devices or types of media, the student will be able to describe the device and list at least 3 advantages and 2 limitations of it.

59. For at least 5 instructional objectives from the Cognitive Domain (each from a different level), the student will be able to describe how media could be utilized to attain these objectives.

60. For a topic or concept from his own teaching field, the student will prepare an adequate set of programmed instruction materials (sequence of frames) that would enable the learner to comprehend that concept.

    OR

    The student will read a recent (within the last three years) article dealing with educational technology, summarize it, react to it, and describe its application to his own anticipated teaching situation.

61. The student will describe how one of the following approaches, utilizing media materials, could be used in his own teaching field.

    Laboratory Activities
    Simulations
    Games.

62. For his simulated Unit/Lesson Plan or for a class presentation, the student will prepare a pre-planned visualization device. This could be a chart, transparency, chalkboard drawing, demonstration device, etc. The student will explain how this visual would be used in his instruction or will actually use it in the case of the presentation.

63. For his Unit/Lesson Plan, the student will include at least 5 different audio-visual devices or media materials and will incorporate them into his instructional plans in an appropriate manner.

64. The student will be able to write a 50-100 word essay describing the function that evaluation has in the general instructional system.

65. The student will be able to state at least two of the assumptions that underly educational measurement.

66. Given the following terms, the student will be able to write an acceptable definition of each.

    Measurement
    Test
    Evaluation

67. The student will be able to list at least 5 ways of evaluating student learning other than the use of written examination. For each way listed, the student will be able to describe the technique or provide an example of the technique.

68. The student will be able to list 3 differences and 3 similarities between standardized and teacher-made examinations. He will also be able to describe the nature and purpose of each type.

69. Given each of the following types of questions commonly found on written examinations, the student will be able to describe the question and tell what type of learning each is suitable for measuring.

    a) Short answer
    b) Completion
    c) True-False
    d) Matching
    e) Multiple-Choice
    f) Essay

70. The student will be able to distinguish between test validity and reliability and will be able to tell at least one way in which each is determined.

71. For the Cognitive objectives established for his Unit Plan, the student will be able to write appropriate objective examination questions. At least five must be multiple choice while the remaining questions may be of the student's own choosing.

72. The student will be able tc provide an accurate definition and description of a "Test Blueprint".

73. For his simulated Unit Plan, the student will develop a "Test Blueprint." This blueprint will show the Cognitive objectives the student has established for the Unit as well as the content being considered.

74. Given the following terms, the student will be able to define each:

    a) Mean
    b) Standard Deviation
    c) Standard Score

d) Percentile Rank
e) Norm
f) Range
g) Normal Distribution
h) Item Analysis
i) Raw Score
j) Age-Equivalent and Grade-Equivalent Scores

75. Given summary statistical information about a distribution of test scores, the student will be able to interpret this information and relate it to individual scores in the distribution.

76. Given a set of test scores the student will be able to calculate the mean, standard deviation, and certain Standard scores for each student in the distribution.

77. The student will be able to describe the difference between relative and absolute grading and will be able to tell two assumptions that underly each method.

78. Given the scores from Objective 76, the student will assign grades to each student in the distribution according to a pre-designed plan.

STATISTICAL MEASURE DATA SHEET
Experimental Group
N=20

No.	Student Initials	GPA	Ohio	SCAT	Pre-Test		Post-Test		Gain Score
					Raw	Z	Raw	Z	
1	JLB	2.16	45	54	15	24	36	54	21
2	LCB	2.43	84	87	25	51	30	43	5
3	RGB	3.01	46	83	28	60	34	50	6
4	MIE	2.50	97	78	27	57	33	48	6
5	TLH	3.33	93	88	26	54	33	48	7
6.	JDJ	2.60	85	74	29	62	--	--	--
7	LDJ	2.40	93	91	22	43	22	29	0
8	KRK	--	88	77	26	54	42	64	16
9	MJL	3.42	94	82	32	71	--	--	--
10	JJM	3.37	--	--		35	36	54	17
11	GWM	3.07	55	76	28	60	36	54	8
12	MDM	2.60	76	63	22	43	33	48	11

*Dashes denote unavailability of data.

No.	Student Initials	GPA	Ohio	SCAT	Pre-Test		Post-test		Gain Score
					Raw	Z	Raw	Z	
13	CMM	3.34	114	89	30	65	36	54	6
14	AJP	2.50	--	--	22	43	31	45	9
15	MJP	3.62	80	80	28	60	--	--	--
16	MJSR	--	--	--	20	37	42	64	22
17	PGS	3.34	77	85	30	65	44	68	14
18	BJS	--	--	--	24	49	--	--	--
19	RJV	--	--	73	25	51	34	50	9
20	KIW	3.70	51	70	30	65	37	55	7

STATISTICAL MEASURE DATA SHEET
Traditional Group
N=20

No.	Student Initial	GPA	Ohio	SCAT	Pre-Test		Post-Test		Gain Score
					Raw	Z	Raw	Z	
1	MA	2.44	72	88	22	43	35	52	13
2	CRB	3.58	114	83	24	49	32	46	8
3	CB	—	—	—	—	—	—	—	—
4	BJB	2.40	67	67	23	46	30	43	7
5	KGC	2.98	--	—	24	49	36	54	12
6	FLD	2.09	--	--	29	62	37	55	8
7	LSF	3.25	--	--	23	46	35	52	12
8	RJG	2.33	78	68	20	37	16	18	-04
9	SRH	2.87	61	70	23	46	30	43	7
10	DEJ	2.45	111	81	23	46	32	46	9
11	PRJ	3.47	--	95	23	46	40	61	17
12	KJK	2.26	79	72	24	49	27	38	3

*Dashes denote unavailability of data.

APPENDIX E. Master Data (Cont.)

No.	Student Initials	GPA	Ohio	SCAT	Pre-Test		Post-Test		Gain Scores
					Raw	Z	Raw	Z	
13	KAL	3.39	82	78	25	51	32	46	7
14	JFL	2.30	--	--	23	46	37	55	14
15	DRM	2.65	79	68	19	35	31	45	12
16	JKM	--	68	66	29	62	40	61	11
17	CJN	3.25	79	82	22	43	36	54	14
18	CMN	3.00	--	71	23	46	35	52	12
19	JCP	2.24	55	69	24	49	28	39	4
20	CCP	2.72	114	91	25	51	30	43	5

May 1971

APPENDIX F. Instructor Evaluation Questionnaire

UNIVERSITY OF NEBRASKA AT OMAHA

INSTRUCTOR EVALUATION QUESTIONNAIRE

Please circle the appropriate response under each question

Preparation for Teaching

Instructor's Name_____

Name and No. of Course_____

1. To what extent does the instructor appear to know his subject matter?

Always Knowledgeable	Often Knowledgeable	Seldom Knowledgeable	Never Knowledgeable
1	2	3	4

2. To what extent does the instructor appear to be interested in his subject?

Always Interested	Often Interested	Seldom Interested	Never Interested
1	2	3	4

3. To what extent does the instructor appear to be confident in teaching the course?

Always Confident	Often Confident	Seldom Confident	Never Confident
1	2	3	4

4. To what extent does the course appear to be well organized?

Very Well Organized	Rather well Organized	Somewhat Disorganized	Very Disorganized
1	2	3	4

5. Are the lectures and/or discussions easy to follow?

Always	Often	Seldom	Never
1	2	3	4

Course Content

6. To what extent is the content relevant to the vocational and/or personal goals of the students?

Very Relevant	Somewhat Relevant	Somewhat Irrelevant	Very Irrelevant
1	2	3	4

7. Does the instructor focus on what's most important in the subject matter?

Always	Often	Seldom	Never
1	2	3	4

8. When personal experiences of the instructor are used, are they relevant to the course content?

Always	Often	Seldom	Never
1	2	3	4

Teaching Methods and Materials

9. Does the instructor use effective examples fo illustrate concepts?

Always	Often	Seldom	Never
1	2	3	4

APPENDIX F. Questionnaire (Cont.)

10. Were the goals of the course communicated clearly to you?

Very Clearly 1	Somewhat Clearly 2	Somewhat Unclearly 3	Very Unclearly 4

11. Were the assignments at the appropriate level of difficulty?

Always 1	Often 2	Seldom 3	Never 4

12. Were audio-visual and other technical aids used effectively in relation to the course content?

Always 1	Often 2	Seldom 3	Never 4	Does not Apply 5

13. Were the lectures and/or discussions or other activities in class presented in an interesting manner?

Always 1	Often 2	Seldom 3	Never 4

14. Was the amount of work appropriate for the number of course credits and level of the course?

Very Appropriate 1	Somewhat Appropriate 2	Somewhat Inappropriate 3	Very Inappropriate 4

15. Were the methods of evaluation for grading purposes communicated clearly?

Very Clearly 1	Somewhat Clearly 2	Somewhat Unclearly 3	Very Unclearly 4

16. Was the instructor fair in grading?

Very Fair 1	Somewhat Fair 2	Somewhat Unfair 3	Very Unfair 4

17. Were the tests or other kinds of evaluations related to the course goals?

Very Well Related 1	Somewhat Related 2	Somewhat Unrelated 3	Very Unrelated 4

Relations with students

18. Does he/she help students to understand coursework?

Always 1	Often 2	Seldom 3	Never 4

19. Does the instructor show positive attitudes toward students?

Always 1	Often 2	Seldom 3	Never 4

20. Is the instructor sensitive to student feelings and problems?

Very Sensitive 1	Somewhat Sensitive 2	Somewhat Insensitive 3	Very Insensitive 4

APPENDIX F. Questionnaire (Cont.)

21. Is he/she available for out of class conferences?

Always	Often	Seldom	Never
1	2	3	4

22. Does he/she listen attentively to students?

Always	Often	Seldom	Never
1	2	3	4

23. Is he/she open-minded to differing viewpoints of students?

Always	Often	Seldom	Never
1	2	3	4

General

24. I learned a great deal from this course.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

25. This course stimulated my thinking.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

26. I would like to continue to study this subject as a result of this course.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

27. In comparison with other courses I have had at this university I would rate this one:

One of the Best	Above Average	Average	Below Average
1	2	3	4

28. In comparison with instructors, I have had, I would rate this one:

One of the Best	Above Average	Average	Below Average
1	2	3	4

29. The class size and other aspects of the physical environment were conducive to maximum learning.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

30. My grade point average is:_____

Comments:

Rating Summary for Instructor Evaluation Questionnaire Items
Experimental Group

Item No.	No. giving rating level of 1	2	3	4	Item No.	No. giving rating level of 1	2	3	4
1	8	8	0	0	16*	9	6	1	0
2	8	6	2	0	17*	13	2	1	0
3	11	4	1	0	18	9	6	1	0
4*	9	5	2	0	19	11	4	1	0
5	7	4	5	0	20	5	9	2	0
6*	8	5	3	0	21*	8	7	1	0
7	6	5	5	0	22	11	4	1	0
8	9	4	3	0	23	8	6	2	0
9*	9	6	1	0	24*	5	5	4	2
10*	12	2	1	1	25*	4	7	4	1
11*	8	5	3	0	26	3	6	4	3
12*	11	3	2	0	27*	4	3	5	4
13	3	9	4	0	28	4	9	2	1
14*	1	6	5	4	29*	8	5	3	0
15*	9	4	2	1					
					Totals	221	155	71	17

*Denotes selected Questionnaire items.

Rating Summary for Instructor Evaluation Questionnaire Items
Traditional Group

Item No.	No. giving rating level of 1	2	3	4	Item No.	No. giving rating level of 1	2	3	4
1	2	12	2	0	16*	4	11	1	0
2	5	9	2	0	17*	4	9	2	1
3	2	11	3	0	18	4	9	3	0
4*	1	1	10	4	19	7	9	0	0
5	0	13	2	1	20	8	7	1	0
6*	4	9	1	2	21*	4	7	3	2
7	1	9	5	1	22	9	6	1	0
8	7	9	0	0	23	8	7	1	0
9*	3	9	4	0	24*	1	6	7	2
10*	1	5	6	4	25*	1	3	11	1
11*	1	13	1	1	26	2	2	10	2
12*	2	5	8	1	27*	0	2	8	6
13	3	10	2	1	28	0	7	9	0
14*	4	8	3	1	29*	3	8	5	0
15*	0	4	9	3	Totals	91	110	120	33

*Denotes selected Questionnaire items.

APPENDIX H. Studen' Letter

April 22, 1911

Dear Dr. Pachetto

Realizing the number of

Students that are due each semester,

I am not at all sure that I

remember me. I was a student in

your Zool. 351 last semester, and I

must confess — the only excuse

I can offer is absolutely

[illegible] I am

"Sahara Kids" [illegible]

[illegible]

APPENDIX H. Student Letter (Cont.)

It comes to complaining about teachers and courses that they dislike, and all too often are downright tongue-tied about expressing any positive thoughts that we might be feeling.

The only two months of teaching I've known about I'd be so sad to see that time shortly coming to a close. It's been a very learning experience and one I'll

APPENDIX H. Student Letter (Cont.)

Semester in the course that I
feel needs expansion. My supervising teacher, Miss
Debbie Carden is very specific about
objectives being clearly defined, and I
consider the experience that I had
in teaching to write behavioral
stated objectives, the most valuable
part of ED 381. Though I continue to
make many form changes of objectives,
I feel that she is placed much
my teaching career in terms I would
not have learned in Secondary without
that experience specifically.

APPENDIX H. Student Letter (Cont.)

I'm enclosing a copy of one of my lesson plans that you to see. I hope that all of the criteria for the objectives are met please the way they are stated. I have found that objectives that are brief, direct and clearly stated for me to be the most important in my lesson planning.

Thank you for your assistance, education wednesday for me, and for helping me on the right track to becoming a good teacher.

Sincerely,

Linda Christian